

STREPTOSPINIGERA ALTERNOCIRRUS,
A NEW SPECIES OF POLYCHAETA
(SYLLIDAE: EUSYLLINAE)

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Abstract.—A new species of Eusyllinae, *Streptospinigera alternocirrus*, from Aburatsubo Bay on the Pacific coast of Central Japan is described. Although it is most closely related to *S. heteroseta* Kudenov in possessing enlarged acicula, composite spinigers, and both superior enlarged and capillary simple setae, it is distinguished from the latter in the morphology and arrangement of the dorsal cirri.

Streptospinigera Kudenov, 1983, was described as a genus closely related to *Streptosyllis* Webster & Benedict, 1884, in having enlarged anterior setae, but differing from the latter in possessing composite spinigers and superior capillary simple setae. During the course of my study on the settlement and recruitment of polychaete larvae (Ohwada 1986) numerous tiny syllids were collected. Some of them fit well in the genus *Streptospinigera*, but differ from *S. heteroseta* Kudenov, the only known species in the genus, in their morphology and arrangement of the dorsal cirri. They are described below as a new species.

Type specimens are deposited in the National Museum of Natural History, Smithsonian Institution, Washington, D.C. (USNM), British Museum (Natural History), London (BM(NH)), and National Science Museum, Tokyo (NSMT).

Streptospinigera alternocirrus, new species
Figs. 1, 2

Material examined.—Misaki, Kanagawa, Japan: Aburatsubo Bay (35°09'18"N, 139°36'55"E), 2 m, clean medium sand, coll. T. Ohwada, 19 Nov 1984, holotype (USNM 01494); 22 Oct 1984, paratype (USNM 01495); 25 Jan 1985, paratype (BM(NH)ZB 1986.695); 20 May 1985, paratype (NSMT-Pol. P 236).

Material examined represents a selection of material available.

Description.—Holotype, sexually mature, 1.37 mm long, 0.23 mm wide without parapodia at middle widest part of body, with 32 setigers. Three paratypes 1.09 to 1.75 mm long, 0.10 to 0.17 mm wide with 26 to 33 setigers. Body generally lacking pigmentation in alcohol preservation.

Prostomium wider than long, with palps large, fused basally, directed anteroventrally, laterally incised, distally rounded, lacking palpal cirri (Fig. 1a, b). Three antennae smooth, clavate; with long median antenna in middle of prostomium, lateral antennae lateral to small ocular spots (Fig. 1a). Four lenticular eyes in trapezoidal arrangement (in holotype, anterior right eye as 2 separate spots, in paratype (USNM 01495), anterior left eye as 2 separate spots), and 2 small ocular spots lateral to bases of lateral antennae (Fig. 1a, b). Peristomium a complete ring dorsally and laterally, with 2 pairs of smooth clavate tentacular cirri; dorsal pair slightly longer than ventral pair.

Pharynx completely everted in paratype (USNM 01495), unarmed, thickly sclerotized, distal border surrounded by 10 papillae proximal to smooth anterior end of sclerotized part (Fig. 1b), extending to about middle part of setiger 3, almost as long as proventriculus. Proventriculus barrel-shaped, about twice as long as wide, ex-

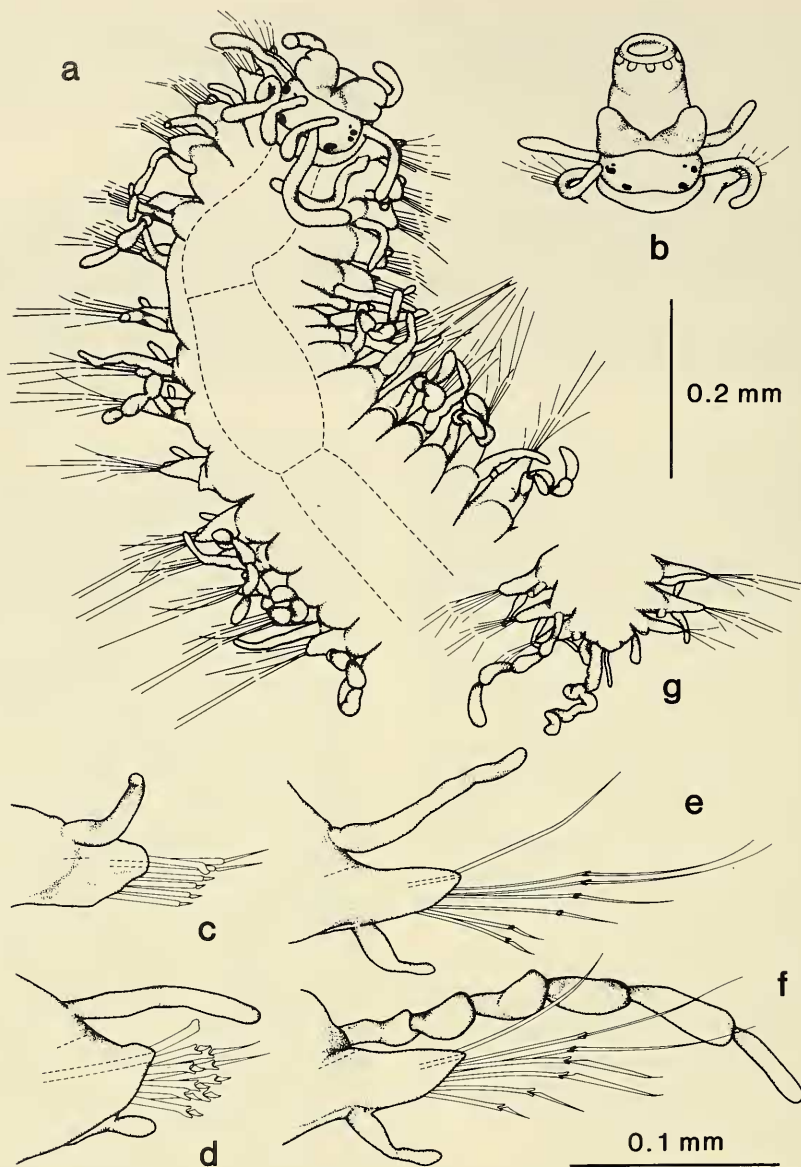


Fig. 1. *Streptospinigera alternocirrus*: a, c, holotype (USNM 01494), b, paratype (USNM 01495), c-f, paratype (BM(NH)ZB 1986.695), g, paratype (NSMT-Pol. P 236): a, Anterior half, dorsal view, pharynx partially everted; b, Dorsal view, anterior end with pharynx everted, antennae not shown (positions dotted); c, Parapodium from setiger 3, dorsal view; d, Same, anterior view; e, Parapodium from setiger 20, anterior view; f, Parapodium from setiger 25, anterior view; g, Posterior end, dorsal view, long right anal cirrus missing.

tending from setiger 7 through 10 in holotype whose pharynx partially everted (Fig. 1a), with about 30 transverse rows of muscle points, also arranged in 2 opposite, diagonal planes.

Parapodia of setigers 1 to 5 large, distally truncate (Fig. 1c, d). Parapodia from setiger 6 smaller and conical (Fig. 1a, e, f). Dorsal cirri of setiger 1 long, resembling tentacular cirri but slightly longer; those of setigers 2,

3, 5 smooth, cirriform (Fig. 1a, c, d). In setiger 4 dorsal cirri longer, with 2 articulations (Fig. 1a). Dorsal cirri of setiger 6 with 4 rather large articles (Fig. 1a). Dorsal cirri of setigers 7 and 8 smooth, thick, subulate, thereafter as long as setae with 4–6 large articles (Fig. 1f) on odd-numbered setigers and smooth, thick, subulate, extending beyond parapodial lobes (Fig. 1e) on even-numbered setigers to end of body (Fig. 1a, g). Each article containing dense yellowish-brown granules. Ventral cirri smooth throughout, short, blunt, inflated on setigers 1–3 (Fig. 1d), thereafter becoming elongate to setiger 7, then subulate to posterior end (Fig. 1e, f).

Neuroacacula of setigers 2–5 twice as thick as followings, with dorsally curved tips (Fig. 2b–e, h). Those from setigers 1 and 6, to end of body slender, distally beak-shaped (Fig. 2a, f, g). Notoacacula very slender, needle-like (Fig. 2i) present in all setigers; those in few anterior setigers especially thin.

Superior simple seta present in all setigers. Those of setigers 1–5 distally falcate, rather short, as long as shafts of compound spinigers; those of setigers 2–5 enlarged (Figs. 1c, d, 2j). From setiger 6 to end of body, stout simple seta replaced by long slender capillary seta, slightly curved dorsally and finely serrated on lower curved side (Figs. 1e, f, 2k) (sometimes transitional forms between two types of simple setae on setiger 6).

Setigers 1–5 each with 10–11 thick composite setae including 6–9 falcigers having short unidentate blades (Fig. 2l, n) and 2–4 spinigers having long blades (Fig. 2m), all with saw-tooth cutting margins, lacking distal hoods and sheaths; those of setigers 2–5 thicker than those of setiger 1. Shaft tips smooth with rather pointed superior branch and rounded inferior branch; cup-shaped socket for blade between two branches (Fig. 2o).

Setigers 6 to end of body each with 6–9 slender composite setae including 2–3 superior spinigers having very long finely ser-

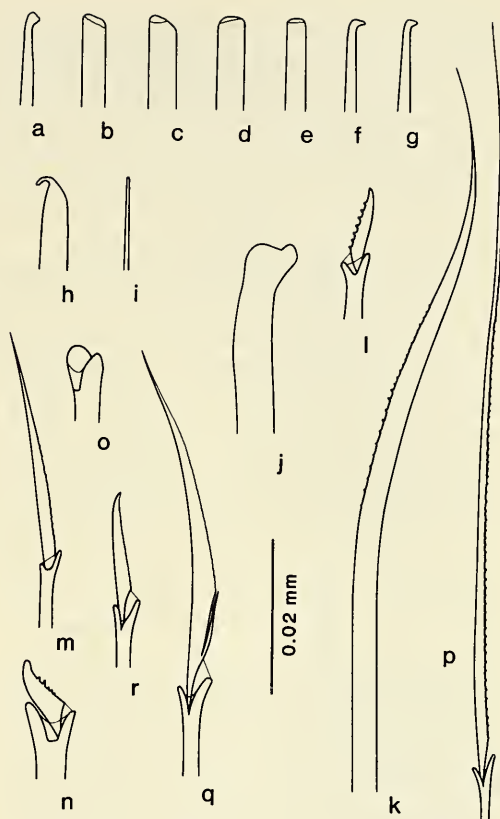


Fig. 2. *Streptospinigera alternocirrus*, paratype (BM(NH)ZB 1986.695): a–g, Neuroacacula, dorsal views: a, Setiger 1; b, Setiger 2; c, Setiger 3; d, Setiger 4; e, Setiger 5; f, Setiger 6; g, Setiger 20; h, Neuroaciculum, setiger 3, anterior view; i, Notoaciculum, setiger 20, anterior view; j, Enlarged superior simple seta, setiger 4, posterior view; k, Superior capillary seta, setiger 10, posterior view; l, Medial composite falciger, setiger 1, anterior view; m, Upper composite spiniger, setiger 1, anterior view; n, Medial composite falciger, setiger 5, posterior view; o, Shaft tip of same, dorsoposterior view; p, Superior composite spiniger, setiger 15, posterior view; q, Medial composite spiniger, setiger 16, posterior view; r, Inferior composite falciger, setiger 22, posterior view.

rated blades of similar length (Fig. 2p), 2–4 medial spinigers having long minutely serrated blades (Fig. 2q) and 2–4 inferior falcigers having rather short unidentate blades with minutely serrated cutting margins (Fig. 2r) becoming shorter ventrally (Fig. 1f); all lacking distal hoods and sheaths. Medial spinigers sometimes with basal spur (Fig.

2q). Shaft tips smooth, similar to those of setigers 1–5, but socket for blade generally inconspicuous, not recognized in superior spinigers. Inferior simple seta absent throughout body.

Pygidium very small with 3 smooth anal cirri including short filiform midventral and 2 long lateral ones (Fig. 1g).

In holotype, gametes present from setiger 10 to end of body.

Remarks.—*Streptospinigera alternocirrus* agrees with *S. heteroseta* in having enlarged acicula in the anterior region, composite spinigers and both enlarged and capillary superior simple setae. *Streptospinigera alternocirrus*, however, differs from *S. heteroseta* in having not only articulate dorsal cirri but also subulate dorsal cirri after setiger 7. In addition, while articulate dorsal cirri become long only on setigers 6, 9, 11, 13, 16, 18 in *S. heteroseta*, long articulate dorsal cirri occur on setiger 6 and, alternately with smooth thick subulate dorsal cirri from setiger 9 to end of body in *S. alternocirrus*. Dorsal cirri of setiger 4 are short, smooth, subulate to cylindrical in *S. heteroseta*, and rather long with two articles in *S. alternocirrus*.

Streptosyllis pettiboneae Perkins, 1980, agrees with *Streptospinigera alternocirrus* in having similar arrangement of articulate and smooth dorsal cirri; *S. pettiboneae*, however, has only composite falcigers and stout superior simple setae.

Ecology.—*Streptospinigera alternocirrus* occurs abundantly in clean medium to fine sands. Epitokes were occasionally found. In these epitokes, four lenticular eyes are enlarged, and several very long natatory setae develop superior to usual capillary simple seta on the segments swollen with reproductive material. Larval settlement oc-

curred mainly from April to June in the type locality, and the highest density of 25,000 inds./m² was recorded during this settling season (Ohwada 1986). The adult population disappeared soon after the breeding season.

Etymology.—The specific name, *alternocirrus*, derives from the Latin, *alternus*, meaning alternate, and *cirrus* meaning curls; it is used as a noun in apposition.

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